**Quadratics Review** **MPM 2D**

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| **Important Information** | **Factored Form** | **Standard Form** | **Vertex Form** |
| Zeros  X-intercepts  Roots  “Solve the equation.”  0=... | Set each factor = 0 and solve. | Quadratic Formula: | Reverse BEDMAS:  set equation = 0, bring k value over to the other side, divide both sides by “a”, take the ± square root of both sides and simplify. |
| Direction of Opening | opens UP  open DOWN | opens UP  opens DOWN | opens UP  opens DOWN |
| Is the “y” value of the vertex a maximum or minimum? | Opens up MIN  Opens down MAX | Opens upMIN  Opens downMAX | Opens upMIN  Opens downMAX |
| Axis of Symmetry  X-coordinate of vertex | Add the two zeros and dividing by 2  (always written ) | Complete the Square | Opposite sign to what’s in brackets. |
| Optimal Value  Y-coordinate of vertex | Sub “x” from above into equation and solve for “y”. | Complete the Square  or  Sub “x” from above into equation and solve for “y”. | “k” value  Same sign as outside brackets. |
| Vertex | Above two steps to get coordinates of vertex | Complete the Square  or  Above two steps to get coordinates of vertex | (h, k) |
| Y-Intercept | Set x = 0 and solve for y. | “c” value is the y-intercept | Set x = 0 and solve for y. |